

ALOK SHREE KOIRALA

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EDUCATION

Thapar Institute of Engineering and Technology (TIET)

Bachelor of Engineering in Computer Engineering

Aug 2021 – Jun 2025

CGPA: 8.25/10

EXPERIENCE

GuardWare Australia

Systems Engineer

Dec 2025 – Present

- Designed and enhanced sensitive data discovery solutions across endpoint devices and cloud platforms (Microsoft Azure, Google Workspace).
- Developed PowerShell automation scripts to interact with Microsoft 365 APIs and remote systems for large-scale file and mailbox scanning.
- Maintained and optimized content inspection mechanisms to detect sensitive information across local PCs and cloud repositories.
- Debugged and resolved production issues in distributed environments to ensure reliable discovery operations.
- Contributed to new feature development including environmental scanning functionalities.

Crimson Tech

SDE & Computer Vision Engineer

Jan 2025 – Oct 2025

- Contributed to the development of a PyQt-based Quality Inspection System integrating YOLO and U-Net models.
- Implemented YOLO segmentation, custom dataset augmentation using Albumentations and imgaug, and automated model testing visualization pipelines.
- Designed modular architecture for object detection and image segmentation components.
- Improved inference stability, optimized on-device performance, and enhanced real-time responsiveness for multi-camera inference.
- Deployed the application to clients and collaborated to deliver custom computer vision features.

PROJECTS

Movie Ticket Booking System

May 2025

- Developed a desktop-based application for booking movie tickets featuring distinct user and admin interfaces.
- Implemented graphical seat selection, secure booking, and movie/showtime management using PyQt5.
- Utilized JSON for persistent data storage with custom QSS for a modernized GUI experience.

LoRaWAN Integrated Intelligent Border Monitoring System

Jan 2024

- Developed IoT solutions to enhance border security by integrating YOLOv8-based real-time person detection with a face recognition system for identifying known individuals.
- Optimized the pipeline for deployment on Raspberry Pi devices, achieving efficient real-time inference in constrained embedded environments.
- Implemented communication with LoRa modules via Arduino for transmitting detection results securely.

SKILLS & ACHIEVEMENTS

- **Languages:** C/C++, Python, R, SQL
- **Technologies & Tools:** Desktop Application Development, Computer Vision, Applied Machine Learning, YOLOv8, PyQt5
- **Achievements:** Kaggle Master